

WHAT IS CLAIMED IS:

1. A storage device having a mechanism, which loads a replaceable storage medium into the body of said storage device, mounted on a chassis, said loading
5 mechanism including a spindle motor for rotating said storage medium, a lift plate on which said spindle motor is placed, and a lifting mechanism for moving said lift plate vertically to said chassis so as to attach or
10 detach said spindle motor to or from said storage medium, said storage device characterized in that:

a tilt adjusting mechanism which adjusts the tilt of said lift plate relative to said chassis when said lift plate is moved towards said storage medium is realized to involve at least three points on said lift
15 plate;

one of the three points is regarded as a reference height level;

a height adjusting mechanism capable of adjusting the height of said lift plate from said chassis is realized to involve the remaining points; and
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the tilt of said spindle motor relative to said storage medium can thus be adjusted.

2. A storage device having a mechanism, which loads a replaceable storage medium into the body of said storage device, mounted on a chassis, said loading
25 mechanism including a spindle motor for rotating said storage medium, a lift plate on which said spindle motor is placed, and a lifting mechanism for moving said lift plate vertically to said chassis so as to attach or
30 detach said spindle motor to or from said storage medium, said storage device characterized in that:

a constraining mechanism which constrains said lift plate to move towards said storage medium is interposed between said chassis and said lift plate; and
35 points to which constraining force exerted by said constraining mechanism is applied are located on a surface of said lift plate opposite to said storage

medium.

3. A storage device according to Claim 2, further comprising:

5 a holding mechanism which holds said lift plate away from said chassis with said storage medium not inserted in said body;

10 a freeing mechanism which frees said lift plate by moving said holding mechanism in a direction opposite to a direction of insertion of said storage medium at the completion of inserting said storage medium into said body, and allowing said constraining mechanism to quickly move said lift plate towards said storage medium.

15 4. A storage device according to Claim 3, further comprising:

an Eject button used to instruct said body to eject said storage medium; and

20 an ejecting mechanism which, when said Eject button is pressed, ejects said storage medium inserted in said body out of said storage device after moving said holding mechanism in a direction opposite to a direction of ejection of said storage medium.

25 5. A storage device according to Claim 4, wherein: two pairs of pins are located at laterally symmetrical positions on said lift plate in a direction orthogonal to the direction of insertion of said storage medium; and

30 said holding mechanism includes holding members for holding said pins with said storage medium not inserted in said body, grooves into which said pins are put when said holding mechanism is moved at the completion of inserting said storage medium into said body, and inclined planes that are engaged with said pins when said holding mechanism is moved in the direction
35 opposite to the direction of ejection of said storage medium, and that thus separate said spindle motor from said storage medium.

6. A storage device according to Claim 1, wherein a constraining mechanism which constrains said lift plate to move towards said storage medium is interposed between said chassis and said lift plate, and points to which
5 constraining force exerted by said constraining mechanism is applied are located on a surface of said lift plate opposite to said storage medium.

7. A storage device according to Claim 1, wherein said adjusting mechanism consists of screw holes bored in
10 said lift plate and tapping screws to be fitted into said screw holes.

8. A storage device according to Claim 1, wherein a reference projection that abuts on said height level is formed on said chassis so that the reference projection
15 will be opposed to said height level.

9. A storage device according to Claim 1, wherein said adjusting mechanism involves three points that are arranged at intervals of substantially 120° with the rotation shaft of said spindle motor as a center.

20 10. A storage device according to Claim 9, wherein said three points involved in said adjusting mechanism are separated from the rotation shaft of said spindle motor by a substantially equal distance.

25 11. A storage device according to Claim 2, wherein said constraining mechanism constrains the center of gravity of said lift plate.

30 12. A storage device according to Claim 6, wherein said constraining mechanism constrains the geometric center of gravity that is a joint in said lift plate adjusting mechanism and said chassis.

13. A storage device according to Claim 6, wherein said constraining mechanism constrains respective points near a joint in said lift plate adjusting mechanism and said chassis to move.

35 14. A storage device according to Claim 6, wherein consideration is taken into force imposed on said spindle motor with said storage medium loaded or the moment of

said spindle motor, so that when the position of said constraining mechanism is determined properly, said constraining mechanism will exert a minimum amount of force.

5 15. A storage device according to Claim 11, wherein said constraining mechanism consists of blade springs.

16. A storage device according to Claim 1, wherein said constraining mechanism consists of twisted coil springs.

10 17. A storage device according to Claim 1, wherein slits are located at positions inside and outside an area on said lift plate occupied by said spindle motor, an extended lead to be coupled to a winding included in said spindle motor is led out to the back of said lift plate through said slit located inside the area, and led back to the surface of said lift plate through said slit located outside the area.

15 18. A storage device according to Claim 5, wherein the sides of said grooves, which are included in said holding mechanism and opposed to said inclined planes, are formed as vertical contact portions, and said contact portions cause a pressing force oriented in a radial direction to operate on said pins with said pins received by said grooves.

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